

Uva Wellassa University of Sri Lanka
Faculty of Science and Technology
Department of Computer Science and Technology
200 level 1st Semester Examination – Sept. / Oct. 2015
CST 221-2 Computer Networks and Applications



Part B

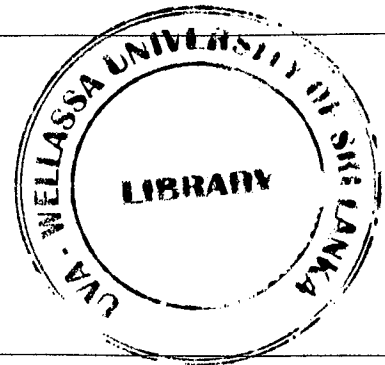
Instructions to candidates

Duration: One (01) hour

Number of questions: Two (02)

Answer all Questions

Mark allocation: 60



1.

- a. Explain Forward Error Correction (FEC) and Backward Error Corrections (BEC) using diagrams.
- b. Automatic Repeat Request (ARQ) method is used as an error correction method. Illustrate with suitable examples.
- c. Sliding window mechanism is used for flow control. Briefly explain it with suitable example.
- d. What does it mean by Clock Recovery in data transmission?
- e. List advantages and disadvantages of virtual circuit and datagram approach in packet switching.

(30 mark)

2.

- a. Cyclic-Redundancy Check(CRC) is one of the error detection mechanisms. If the data to be transmitted is 100100 and the divisor is 1101
 - i. Show the Frame Check Sequence (FCS) 001
 - ii. What is the bit stream that is transmitted?
 - iii. If the received bit stream 100100001, show that there are no errors in the received bit pattern.
 - iv. If the received bit stream 101110001, show that there are no errors in the received bit pattern.
- b. What is the use of 'time out value' in stop-and-wait (idle ARQ) method?
- c. Illustrate the physical construction characteristics of the Optical fiber cable.
- d. What is RARP?
- e. Describe the following,
 - i. Message switching
 - ii. Circuit switching
 - iii. Packet switching

(30 mark)